a plurality of base stations and base station controllers for transferring a

signal transmitted from said mobile stations and a signal transmitted to said mobile

stations in a predetermined service area;

a mobile switching center for [deciding] detecting a service option included

in the signal transmitted from the base stations and base station controllers and for

executing a circuit data service or a packet data service according to the [decided] detected

service option; and

at least one mobile data network interworking [units] unit for establishing

a traffic channel of a mobile data path and a call between a calling party mobile station

and a called party mobile station when said mobile switching center performs the circuit

data service.

2.   (Amended) [A] The mobile data communication system claimed in claim

1, wherein said mobile switching center comprises:

a mobile connection control module for [deciding a] detecting the service

option included in the signal transmitted from said base station and base station

controllers and for generating a switching signal controlling an interface connection;

a mobile data path connection control module for controlling the

connection to a mobile network data path according to the output signal of said mobile

connection control module;

2

a public network data path connection control module for controlling the connection to a public network data path according to the output signal of said mobile data network interworking unit; and

a trunk connection control module for transmitting [the] an output signal of said public network data path connection control module or said mobile network data path connection control module to [the] a public switched telephone network or to [the other] a second mobile switching center according to the output signal of said mobile data path control module or said public network data path connection control module.

3.   (Amended) [A] The mobile data communication system claimed in claim 1, wherein said mobile station [includes a couple of] comprises a data terminal coupled to [and] a mobile terminal which are connected to each other or a separate mobile terminal.

4.   (Amended) [A] The mobile data communication system claimed in claim 3, wherein said data terminal [includes] comprises one of notebook computer, personal digital assistant, laptop computer, palmtop computer, portable [or] and small computer.

5.   (Amended) [A] The mobile data communication system claimed in claim 1, wherein each of said mobile stations [includes] comprises a protocol stack for [a] circuit data and a call processing module for processing [a] packet data.

6.   (Amended) [A] The mobile data communication system claimed in claim 1, wherein said mobile data network interworking unit [includes] comprises:

a data path connection section for forming a path connection between said mobile switching center and mobile data network interworking unit;

a main processing section forming a traffic channel of a mobile data path between [a] the calling party mobile station and [a] the called party mobile station to execute a circuit data communication or a packet data communication according to a received signal from said data path connection section;

a circuit data processing section analyzing the signal transmitted from said calling party mobile station if the protocol between the calling party mobile station and the called party mobile station is normally executed when said main processing section performs the circuit data service and then transmitting [said] a called party identification number to said main processing section; and

a switching section selectively switching the connection between said circuit data processing section and said data path connection section according to the control signal of said main processing.

7.   (Amended) [A] The mobile data communication system claimed in claim [5] 6, wherein said main processing section [includes] comprises:

a mobile data path control module for establishing a link with said mobile switching center;

a circuit data control module controlling the exchange of [the] traffic data information between said mobile station and circuit data processing section;

a modem control module controlling [the] a modem equipped in said circuit data processing section; and

a public network data path control module for establishing the link with said mobile switching center.

8.   [A] The mobile data communication system claimed in claim [5] 6, wherein said circuit data processing section [includes] comprises:

an interface control section performing an interface between said main processing section and said circuit data processing section;

at least one [modems] modem; and

5

a modem controller controlling an operation of the <u>at least one</u> modem according to a modem control signal of said interface control section.

9.   (Amended) [A] <u>The</u> mobile data communication system claimed in claim 1, wherein said mobile data communication system [is characterized by] <u>comprises</u> a CDMA mobile data communication system.

10.   (Amended) A wireless data communication method in which at least one mobile switching [centers] <u>center</u> including a mobile connection control module, a mobile data path connection control module, a public network data path connection control module and a [truck] <u>trunk</u> connection control module are connected with at least one data network interworking [units] <u>unit</u> by a first data path and a second data path, comprising [the steps of]:

inputting an identification number of a called party mobile station;

establishing a first call from a calling party mobile station to [said] <u>the</u> mobile data network interworking unit and then establishing a first traffic channel;

calling a called party mobile station at [said] <u>the</u> mobile data network interworking unit;

establishing a second call from said called party mobile station to [said] the

mobile data network interworking unit when a data response comes from said called

party mobile station and then establishing a second traffic channel after [said] the mobile

data path connection module informs [said] the public network data path connection

control module of [the] a normal state of said first data path;

establishing a call between [said] the mobile switching center and the mobile

data network interworking unit through the second data path; and

connecting said first and second traffic channels through at least one

[modems] modem.

11.   (Amended) [A] The wireless data communication method claimed in claim

10, wherein said first data path is a mobile data path and said second data path is a public

network data path.

12.   (Amended) [A] The wireless data communication method claimed in claim

10, wherein the identification number of said called party mobile station is inputted by

an ATD command and the data response is automatically generated by a preset automatic

response mode or an ATA command.

13.   (Amended) [A] The wireless data communication method claimed in claim 10, wherein said steps for establishing the first call [includes the steps of] comprises:

deciding the service option included in the signal transmitted from said calling party mobile station; and

requesting said data network interworking unit to establish a call when said service option is to request a circuit data communication service.

14.   (Amended) [A] The wireless data communication method claimed in claim 10, wherein said step of establishing the first traffic channel [includes the steps of] comprises:

initializing a first modem equipped in [said] the data network interworking unit;

connecting a path between said calling party mobile station and [said] the data network interworking unit to modem;

establishing a communication protocol between said calling party mobile station and [said] the data networking unit;

transmitting the identification number of said calling party mobile station and said modem initialization specification from said calling party mobile station to [said] the first modem; and

8

reestablishing with a modem initialization specification required by said calling party mobile station.

15.   (Amended) [A] The wireless data communication method claimed in claim 14, wherein said step of initializing the first modem [includes the step of] comprises:

deciding whether or not there is an idle resource in the first modem; and

establishing a basic configuration value when there is an idle resource in the first modem.

16.   (Amended) [A] The wireless data communication method claimed in claim 10, wherein said step of [said] calling the called party mobile station [includes the steps of] comprises:

transmitting a connection request message from [said] the mobile data network interworking unit to said mobile switching center;

requesting an incoming connection from said mobile station to said called party mobile station; and

calling a mobile terminal of said called party mobile station.

17.   (Amended) [A] The wireless data communication method claimed in claim 10, wherein the step of establishing said second call [includes the steps of] comprises:

[deciding] detecting a service option included in the signal transmitted from said called party mobile station; and

requesting [said] the data network interworking unit to establish a call when [a decision on] said detected service option is for a circuit data communication service.

18.   (Amended) [A] The wireless data communication method claimed in claim 10, wherein the step of establishing said second traffic channel [includes the steps of] comprises:

initializing a second modem equipped in [said] the data network interworking unit;

connecting a path between said called party mobile station and [said] the data network interworking unit to modem;

establishing a communication protocol between said called party mobile station and [said] the data network interworking unit;

transmitting said incoming response receive message and said modem initialization specification from said called party mobile station to [said] the second modem; and

reestablishing a modem initialization specification required by said calling

party mobile station.

19.   (Amended) [A] The wireless data communication method claimed in claim

18, wherein the step of initializing the modem [includes the steps of] comprises:

deciding whether or not there is an idle resource in [said] the second modem;

and

establishing a basic configuration value when there is an idle resource in

[said] the second modem.

20.   (Amended) [A] The wireless data communication method claimed in claim

10, wherein the steps of establishing said first and second calls and connecting the traffic

channel [comprise the steps of] comprises:

informing [said] the public network data path connection control module

by [said] the mobile data path connection control module that said first data path is

normally established;

establishing a call between the public network data path connection control

module and the data network interworking unit through said second data path;

connecting a path of the first call with a path of the second call in the public network data path connection control module;

making the traffic channel between [said] <u>the</u> mobile connection control module and [said] <u>the</u> public network data path connection control module inactive;

receiving both a connection request message transmitted from said calling party mobile station through the mobile switching center and [a] <u>an</u> incoming response message transmitted from said called party mobile station into [said] <u>the</u> data network interworking unit;

connecting at least one [modems] <u>modem</u> equipped in [said] <u>the</u> data network interworking unit which is assigned to link said connection request message and said incoming response message to each other; and

confirming the connection of [said modems] <u>the at least one modem</u>.

21.   (Amended) [A] <u>The</u> wireless data communication method in which at least [than] one mobile switching [centers] <u>center</u> having a mobile connection control module, a mobile data path connection control module, a public network data path connection control module and a trunk connection control module is connected with at least [than] one data network interworking [units] <u>unit</u> through a first data path and a second data path, comprising [the steps of]:

a) inputting an identification number of a called party mobile station;

b) establishing a first traffic channel after establishing a first call from a calling party mobile station to a first mobile data network interworking unit through a first mobile switching center;

c) calling a called party mobile station controlled by a second mobile switching center from said first mobile data network interworking unit through said public network data path connection control module and said trunk connection control module;

d) establishing a second traffic channel after a second call from said called party mobile station to a second mobile data network interworking unit is established when said called party mobile station is responded and said mobile data path connection module informs said public network data path connection control module of a normal state of said first data path;

e) establishing a call between said public network data path connection control module and said second mobile data network interworking unit after said mobile data path connection control module informs said public network data path connection control module of the completion of channel establishment when said second traffic channel is completely established;

f) releasing the traffic channel between said mobile connection control module and said public network data path connection control module when the call establishment between the public network data path connection control module and said second mobile data network interworking unit is completed; and

g) connecting said public network data path connection control module with the trunk connection control module.

Please add new claims 22-37 as follows:

--22.   The method of claim 21, wherein establishing the first traffic channel comprises:

initializing a first modem equipped in the data network interworking unit;

connecting a path between said calling party mobile station and the data network interworking unit to modem;

establishing a communication protocol between said calling party mobile station and the data networking unit;

transmitting the identification number of said calling party mobile station and said modem initialization specification from said calling party mobile station to the first modem; and

reestablishing with a modem initialization specification required by said

calling party mobile station.--

--23.   The wireless data communication method claimed in claim 22, wherein said

step of initializing the first modem comprises:

deciding whether or not there is an idle resource in the first modem; and

establishing a basic configuration value when there is an idle resource in the

first modem.--

--24.   The wireless data communication method claimed in claim 21, wherein the

step of establishing said second traffic channel comprises:

initializing a second modem equipped in the data network interworking

unit;

connecting a path between said called party mobile station and the data

network interworking unit to modem;

establishing a communication protocol between said called party mobile

station and the data network interworking unit;

transmitting said incoming response receive message and said modem

initialization specification from said called party mobile station to the second modem; and

reestablishing a modem initialization specification required by said calling

party mobile station.

--25.   The method of claim 24, wherein the step of initializing the modem

comprises:

deciding whether or not there is an idle resource in the second modem; and

establishing a basic configuration value when there is an idle resource in the

second modem.--

--26.   The method of claim 21, wherein the identification number of said called

party mobile station is inputted by an ATD command and the data response is

automatically generated by a preset automatic response mode or an ATA command.--

--27.   A mobile data communication system, comprising:

16

at least one base station and base station controller, configured to receive and transfer a signal from at least one mobile station and a signal transmitted to the at least one mobile station in a prescribed service area;

a mobile switching center (MSC) configured to detect a service option included in the signal transmitted from the at least one base station and base station controller and to execute a circuit data service or a packet data service according to the detected service option; and

at least one mobile data network interworking unit coupled to the MSC to establish a traffic channel of a mobile data path and a call between a calling party mobile station and a called party mobile station when said mobile switching center performs the circuit data service.--

--28.   The system of claimed 27, wherein the at least one mobile data network interworking unit comprises:

a circuit data processing circuit;

a main processing circuit;

an interface control section, configured to provide an interface between the main processing circuit and the circuit data processing circuit;

at least one modems; and

17

a modem controller configured to control an operation of the at least one

modem according to a modem control signal of the interface control section.--

--29.   The system of claim 27, wherein the at least one mobile data network

interworking unit, comprises:

at least one processor;

at least one modem; and

a modem controller, configured to receive a modem control signal from the

at least one processor and control the modem in accordance with the modem control

signal.--

--30.   The system of claim 29, wherein the communication system comprises a

CDMA communication system.--

--31.   The system of claim 27, wherein the mobile switching center comprises:

a mobile connection control module to detect a service option included

in the signal transmitted from the at least one base station and base station controller,

and to generate a switching signal to control an interface connection;

a mobile data path connection control module, configured to control a connection to a mobile network data path according to the output signal of the mobile connection control module;

a public network data path connection control module, configured to control a connection to a public network data path according to an output signal of the mobile data network interworking unit; and

a trunk connection control module, configured to transmit an output signal of one of the public network data path connection control module and the mobile data path connection control module to one of a public switched telephone network and a second mobile switching center according to the output signal of the mobile data path control module or the public network data path connection control module.--

-32. An interworking unit for a wireless communication system, comprising:

a data path connector to couple to a mobile switching center;

a main processor to form a traffic channel of a mobile data path between a first mobile terminal and a second mobile terminal;

a circuit data processor, coupled to the main processor and configured to analyze a signal transmitted from the first mobile terminal if a protocol between the

19

first mobile terminal and the second mobile terminal is normally executed, and to

transmit an identification number from the second terminal to the main processor; and

a switching circuit, configured to selectively switch a connection between

the circuit data processor and the data path connector in accordance with a control

signal from the main processor, wherein the circuit data processor comprises at least

one modem.--

--33.   The mobile data communication system claimed in claim 32, wherein the

main processor comprises:

a mobile data path control module coupled to establish a link with the

mobile switching center;

a circuit data control module configured to control the exchange of traffic

data information between the first mobile terminal and a circuit data processor;

a modem control module configured to controlling the at least one modem;

and

a public network data path control module coupled to establish the link

with the mobile switching center.--

--34. The mobile data communication system claimed in claim 32, wherein the circuit data processor comprises:

an interface controller to provide an interface between the main processor and the circuit data processor; and

a modem controller coupled to control an operation of the at least one modem according to a modem control signal provided by the interface control section.--

--35. A method of performing wireless data communications, comprising:

a) inputting an identification number of a first mobile station;

b) establishing a first call from a second station to a mobile station to said mobile data network interworking unit and then establishing a first traffic channel;

c) calling the first mobile station at the mobile data network interworking unit;

d) establishing a second call from the first party mobile station to the mobile data network interworking unit when a data response comes from the first mobile station, and then establishing a second traffic channel after a mobile data path connection module informs a public network data path connection control module of a normal state of the first data path;

e) establishing a call between a mobile switching center and the mobile data network interworking unit through the second data path; and

21

connecting the first and second traffic channels through at least one modem of the mobile data network interworking unit.--

--36.   The method of claim 35, wherein the first data path is a mobile data path and the second data path is a public network data path.--

--37.   The method of claim 35, wherein the identification number of the first mobile station is inputted by an ATD command and the data response is automatically generated by a preset automatic response mode or an ATA command.--

REMARKS

Claims 1-37 are pending in this application. By this amendment, claims 1-21 are amended, and new claims 22-37 are added. The claims have only been amended to attend to informalities, and not to overcome any of the references of record.

Claims 1-7, 9, 10, 13, 16-17, and 21 stand rejected under 35 U.S.C. § 103(a) over Ahlenius et al.(U.S. Patent No. 5,859,839) (hereinafter Ahlenius), in view of Muths et al. (U.S. Patent No. 6,081,706) (hereinafter Muths). This rejection is respectfully traversed.

Applicant respectfully submits that is improper to use the asserted references to establish a prima facie case of obviousness. Specifically, when this application was filed,

22

Applicant claimed priority to Korean patent application number 13291/1997, filed April 10, 1997. A certified translation of the Korean patent application will be submitted to the Patent Office. The filing dates of each of the asserted references, however, is later than the effective filing date of the present Application. For example, Ahlenius has a filing date of June 30, 1997, and Muths has a filing date of October 17, 1997. Accordingly, because the present Application antedates the asserted references, it is respectfully submitted that the rejection is improper. Withdrawal of the rejection is respectfully requested.

Moreover, even if the use of the asserted references were proper, the proposed combination fails to establish a prima facie case of obviousness, as required by Section 103. Specifically, neither reference teaches or suggests all of the claimed features, as required by Section 103. Hence, for this additional reason a prima facie case of obviousness has not been made.

Applicant acknowledges with appreciation the indication of allowable subject matter in claims 8, 11-12, 14-15 and 18-20. Additionally, new claims 22-37 have been added, and are believed to be in condition for allowance. Prompt examination and allowance in due course are earnestly solicited.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Anthony H. Nourse**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

Daniel Y.J. Kim
Registration No. 36,186
Anthony H. Nourse
Registration No. 46,121

P.O. Box 221200
Chantilly, VA 20153-1200
703 502-9440
Date: February 22, 2001
DYK/AHN:jld